REMARKS / ARGUMENTS

Claims 18-21, 25 and 33-41 are pending in the instant application. Claims 3 and 22-24 have been previously cancelled, and claims 1-2, 4-17, 26-32 and 42-49 are withdrawn due to allegedly being directed to a non-elected invention. Claims 18, 20 and 21 have been amended to clarity the claim language. Claims 18, 33, 36 and 39 are independent. The Applicant submits that the claims. Claims 19-21, 25, 34-35, 37-38 and 40-41 depend directly or indirectly from independent claims 18, 33, 36 and 39, respectively.

Claims 20-21 are rejected under 35 USC 112, second paragraph, as allegedly being indefinite for lacking antecedent basis.

Claims 36-41 are rejected under 35 USC 112, first paragraph, as allegedly failing to comply with the written description requirement.

Claims 18, 20, 22-29, 31, 32 and 36-41 are rejected under 35 USC 102(e) as anticipated by USPP 2001/0037406 ("Philbrick"), in view of USPP 2002/0059451 ("Haviv").

Claims 33-35, 30 are rejected under 35 USC 103(a) as being unpatentable over Philbrick in view of Microsoft Winsock Direct and Protocol Offload on SANs, 03/03/2001 ("Microsoft").

I. Examiner's Response to Arguments in the Office Action

The Examiner, in page 2 of the Office Action, relies on a new reference (Haviv) to combine with the primary reference (Philbrick).

The Examiner states the following regarding claims 33-36:

> "Applicant's arguments regarding claims 33-36 have been fully considered but they are not persuasive. **Applicant argues that the prior art (Philbrick) does not teach a chip coupled to a (single) L2 connector**, the chip enabled to concurrently process a plurality of different types of network traffic. This argument is respectfully traversed. **Philbrick clearly shows and discloses that a single L2 SAN connector can run SCSI over TCP/IP (SCSI (first traffic) over TCP/IP (second traffic using a same protocol stack)** (Philbrick, [0065] lines 15-17)."

See Office Action at page 3 (emphasis added). The Examiner relies for support on Philbrick's Figs. 6 and 16, and alleges that Philbrick discloses a single L2 SAN connector. More specifically, the Examiner equates Philbrick's MAC 424 (which is part of the INIC 400) in Fig. 6 to a "single" L2 SAN connector. The Applicant respectfully disagrees and points out that Philbrick clearly discloses the MAC 424 as a Media Access Controller (MAC), which is a part of the INIC 400. Philbrick does not disclose or equate a MAC to be the same as a L2 connector at all, let alone disclose a "single" L2 SAN connector, as alleged by the Examiner.

Furthermore, the Examiner is referred to the following citation of Philbrick:

> "The **INIC 22 is connected by network connectors to four network lines** 702, 704, 706 and 708, which may transport data along a number of different conduits, such as twisted pair, coaxial cable or optical fiber, each of the connections providing a media independent interface (MII) via commercially available physical layer chips 712, 714, 716 and 718…"

See Philbrick at ¶0106 (emphasis added). Philbrick, in Fig. 16 and in the above citation, clearly discloses that the INIC 22 (also disclosed as INIC 400 in Fig. 6) is connected by **network connectors** (i.e., a **plurality of connectors**). In addition, Philbrick further discloses that **there are four network lines** (the alleged "fabric"), each of which is connected to a respective **network connector**. In other words, Philbrick discloses that the INIC 22 is connected to **four network lines** (i.e., four alleged fabrics) via four network connectors (i.e., four alleged L2 SAN connectors). Therefore, the Examiner's allegation that Philbrick discloses or suggests that the INIC is connected by a single L2 SAN connector and to a single fabric is not only unsupported, but also contrary to the disclosure of Philbrick.

The Applicant points out that the Examiner relies on Haviv's Fig. 5 to disclose using **an interconnected fabric** to a plurality of servers for transporting different traffic types. However, the Applicant points out that Haviv merely discloses that the different traffic types **are carried through an interconnected fabric**, not a "single" fabric, as alleged by the Examiner. In this regard, Haviv also does not overcome Philbrick's deficiencies.

Based on at least the foregoing rationale, the Applicant maintains that the combination of Philbrick and Haviv at least does not disclose or suggest "said **single fabric comprises a single layer 2 (L2) connector coupled to a single integrated convergent network controller chip**," as recited in Applicant's claim 33. Claim 33 is submitted to be allowed.

The Examiner further states the following arguments:

> "Satran et al. in draft-ietf-ips-iscsi-07.txt discloses that (iSCSI) communication between a client (initiator) and server (target) occurs over one or more TCP connections (1.2.1, par. 1-4). One skilled in the art would appreciate that layer 4 TCP/IP (described in [0050] by Philbrick) is inherently supported in an iSCSI. Therefore, **SCSI over TCP supports both SCSI traffic and TCP traffic**. Furthermore, **given the broadness of "different types of traffic," any two different traffics can be read as different types of traffic...**"

See Office Action at page 3 (emphasis added). The Applicant respectfully disagrees. The Examiner's allegation that Satran discloses that the iSCSI protocols are **two separate protocols**, namely the SCSI protocol and TCP/IP protocol, instead of being a protocol of its own, is contrary to Satran's disclosure. The Examiner is referred to Satran's draft-ietf-ips-iscsi-07.txt, specifically at pages 14-15, where Satran clearly discloses that the SCSI protocol and commands are limited to the SCSI data transactions at the target and initiator locations, and are unable to be transported across the TCP/IP infrastructure.

Satran at page 16 further discloses that the iSCSI protocol uses unique iSCSI commands and status numbering scheme for the iSCSI PDUs. In other words, Satran discloses that **the iSCSI protocol is a unique protocol** specifically developed to enable the SCSI data blocks to be transported over the TCP/IP infrastructure. In addition, **that handles specific messages, namely the iSCSI PDUs, with iSCSI commands and data format**. In this regard, in the absence of the iSCSI protocol, the SCSI data blocks would not be handled by the TCP protocol. Therefore, the Examiner

is incorrect in interpreting the iSCSI protocol as being two separable protocols, namely the SCSI and TCP protocols. Therefore the allegation that the iSCSI PDUs are broadly read as "two types of network traffics" is also incorrect.

The Examiner states the remaining argument:

> "Many sections in Philbrick disclose handling at least two traffics over a same fabric (fig. 14, [0084], [0085], NAS traffic and network storage traffic over network line 644, utilizing iSCSI and TCP/NetBios/SMB, [0085], iSCSI and TCP/NetBios/SMB, fig. 15, [0093], [0097], [0099], fast path audio and video traffics and real time voice/video traffics and NAS, RTP/RTCP and SIP and MGCP)"

See Office Action at page 4 (emphasis added). The Examiner relies for support on Philbrick's Fig. 14 to disclose the file format TCP/NetBios/SMB between the NAS storage unit 642 and the host server 600, and iSCSI block format data between the Network Storage Unit (SAN) 640 and the host server 600.

However, Philbrick does not disclose or suggest that the INIC 622 (the alleged convergent network controller) **concurrently process the** TCP/NetBios/SMB files from the NAS 642 and the iSCSI PDUs from the SAN 640. In this regard, Philbrick does not disclose or suggest "…**a single integrated convergent network controller chip** that is enabled to **concurrently process a plurality of different types of traffic**," as recited in Applicant's claim 33. Haviv does not overcome Philbrick's above deficiencies.

Based on the foregoing rationale, the Applicant maintains that the combination of Philbrick and Haviv does not establish a prima facie case of obviousness to reject Applicant's claim 33, and claim 33 is submitted to be allowed.

Likewise, claims 18, 36 and 39 are similar to claim 33 in many respects, and are submitted to be allowed.

In addition, with regard to the rejection of claim 36, Philbrick does not disclose or suggest "**concurrent hardware, firmware and software processing functionalities**," and "coupled to a plurality of servers via a single fabric," as recited in Applicant's claim 36.

II. REJECTION UNDER 35 U.S.C. § 112. Second Paragraph

Claims 20-21 are rejected under 35 USC 112, second paragraph, as allegedly being indefinite for lacking antecedent basis. The Applicant has amended claim 20 to depend from claim 19. In claim 21, the Applicant has amended the claim language from "the server" to "the plurality of servers". The Applicant believes the amendments to claims 20 and 21 have obviated the rejections under 35 USC 112, second paragraph.

III. REJECTION UNDER 35 U.S.C. § 112. First Paragraph

Claims 36-41 are rejected under 35 USC 112, first paragraph, as allegedly failing to comply with the written description requirement. The Examiner alleges the following:

> "the following cannot find support in the specification: a ... chip that enables **concurrent hardware, firmware and software processing functionalities** of a plurality of different types of traffic"

See Office Action at page 5 (emphasis added). The Applicant respectfully disagrees, and points out that Applicant's claims 36-41 find support in, for example, paragraphs 35, 38, 40 and 53, and in Figs. 6-7 and 9 of Applicant's specification. Applicant's specification at ¶35 states:

> "... the present invention provide an architectural approach (e.g., a multiple-in-one approach) in which **storage, clustering and network requirements** that need or otherwise would benefit from hardware acceleration are identified and **implemented in hardware**...The **multiple-in-one device** may provide savings in silicon, processing power and memory requirements. Furthermore, the cost of each implementation and space used by each implementation may be substantially reduced such that **features and functions may be combined on a single chip**."

As seen above, Applicant's ¶0035 discloses **a single chip** with **multiple-in-one features and functions** (e.g. storage, clustering and network requirements). Regarding the features and functions of the single chip (the multiple-in-one device), the Examiner is referred to the following citations of Applicant's specification:

> "...**The device** may also be fully **compatible with existing LAN controllers**. **LAN traffic may be supported concurrently with TCP offload, iSCSI and RDMA traffic**."

See Applicant's specification at ¶38 (emphasis added). Applicant's ¶0038 further discloses the multiple-in-one features of **the device** (the single chip), including being compatible with existing LAN controllers **for concurrently handling a plurality of traffic types, such as the TCP offload, iSCSI and RDMA traffic**.

In addition, the single chip multiple-in-one device is disclosed as a Convergent Network Controller (CNC). The Examiner is referred to the following citation:

> "FIG. 7 shows a representation illustrating an embodiment of **a converged network controller (CNC) architecture** and a host system according to the present invention. The CNC architecture may be **adapted to provide a flow-through NIC**. In one embodiment, the CNC architecture provides a TCP enabled Ethernet controller (TEEC) that provides TCP offload services. **Hardware, firmware and software may be added to provide layer 5 (L5) functionality**. Protocols such as iSCSI and RDMA may be considered L5 technologies. Unlike conventional host bus adapter (HBA) architectures, the CNC architecture may provide for a different functionality split according to some embodiments of the present invention."

See Applicant's specification at ¶40 (emphasis added). Applicant's ¶0040 and Fig. 7 disclose the multiple-in-one **single chip device as a converged network controller (CNC)**, which provides added NIC **functionalities, including hardware, firmware and software added to provide layer 5 (L5) functionality**.

The Examiner is further referred to the following citations:

> "**The CNC may support multiple types of communications concurrently**. For example, the CNC may support Ethernet traffic, TCP/IP traffic, iSCSI traffic, kernel RDMA, user-space RDMA and management traffic as illustrated in FIG. 9."

See Applicant's specification at ¶53 (emphasis added). Applicant's ¶0053 and Fig. 9 further disclose that the **single chip CNC device** (i.e., **functionalities including Hardware, firmware and software**) supports multiple types of communication currently.

Based on the foregoing citations, the Applicant maintains that the claim language "a **single** integrated **convergent network controller chip** that **enables concurrent hardware, firmware and software processing functionalities** of a plurality of different types of traffic…," as recited in Applicant's claim 36, is supported by Applicant's

specification. Likewise, claim 39 is similar in many respects to claim 36, and is also supported by the present specification.

Claims 37-38 and 40-41 depend from claims 36 and 39, respectively. The Applicant respectfully requests that the rejection to claims 36-41 under 35 USC 112, first paragraph be withdrawn.

IV. REJECTION UNDER 35 U.S.C. § 103

In order for a *prima facie* case of obviousness to be established, the Manual of Patent Examining Procedure ("MPEP") states the following:

> "First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine the teaching. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure."

See MPEP at § 2142, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added). Further, MPEP § 2143.01 states that "the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art suggests the desirability of the combination," and that "although a prior art device 'may be capable of being modified to run the way the apparatus is claimed, there must be *a suggestion or motivation in the reference* to do so'" (citing In re Mills, 916 F.2d 680, 16 USPQ 2d 1430 (Fed. Cir. 1990)). Moreover, MPEP § 2143.01 also states

that the level of ordinary skill in the art cannot be relied upon to provide the suggestion…," citing Al-Site Corp. v. VSI Int'l Inc., 174 F.3d 1308, 50 USPQ 2d 1161 (Fed. Cir. 1999). Additionally, if a *prima facie* case of obviousness is not established, the Applicant is under no obligation to submit evidence of nonobviousness.

> The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

See MPEP at § 2142.

A. The Proposed Combination of Philbrick and Haviv Does Not Render Claims 18, 20, 25 and 36-41 Unpatentable

The Applicant turns to the rejection of claims 18, 20, 25 and 36-41 under 35 U.S.C. § 103(a) as being unpatentable over Philbrick in view of Haviv.

A(1) Independent Claims 18, 36 and 39

With regard to the rejection of independent claim 18 under 35 U.S.C. § 103(a), the Applicant submits that Philbrick does not disclose or suggest "a **single Ethernet connector** for **handling a plurality of different types of network traffic transported via a single fabric**, wherein **the single Ethernet connector is coupled to the single integrated convergent network controller chip**," as recited in Applicant's claim 18. The Examiner states the following:

> "For claim 18, Philbrick discloses a server, comprising: a **single integrated convergence network controller chip** (fig. 6, fig. 1, **network interface**

> **card INIC** 22); in a single Ethernet connector for handling a plurality of different types of network traffic (fig. 16, one of the Ethernet connectors for receiving multiple traffic types, [0065], SCSI and TCP, or Etherstorage or SEP and TCP, [0069] lines 20-23, different storage protocols over TCP/IP, [0084], [0085], NAS traffic and network storage traffic over network line 644, utilizing iSCSI and TCP/NetBios/SMB, [0085], iSCSI and TCP/NetBios/SMB, fig. 15, [0093], [0097], [0099], fast path audio and video traffics and real time voice/video traffics and NAS, RTP/RTCP and SIP and MGCP)), the single Ethernet connector is coupled to the single integrated convergent network controller chip ([0066] lines 12-15, Ethernet connector 424 coupled to the INIC)"

See Office Action at page 6 (emphasis added). The Examiner is referred to Applicant's arguments in section I above, namely, that Philbrick's INIC 22 (the alleged "single integrated convergent network controller chip") is connected to network connectors via the four MAC controllers 722-728 for processing L2 level protocols of four incoming network traffics. In this regard, Philbrick uses four separate controllers in the INIC 22 (not a single integrated convergent network controller chip) coupled to four corresponding connectors (not a single connector) and to four alleged fabrics for the network traffics (not a single fabric).

In addition, the Applicant maintains the arguments at page 21 of the 12/12/08 RCE response, that an "Ethernet connector" is merely a passive mechanical hardware for interfacing IEEE 802.x specifications network signals. The claimed "Ethernet connector" does not utilize active electronic hardware such as IC and program codes to perform signal processing functions, which Philbrick's MAC controller 424 does. In this regard, the Examiner is erroneous in equating Philbrick's MAC controller 424 to the claimed "Ethernet connector" as recited in claim 18.

The Examiner is also referred to the Applicant's above arguments with regard to claim 33, and the arguments at pages 21-22 of the 12/12/08 RCE response, that the iSCSI protocol does not consist of two separate protocols, but a single unique protocol. In this regard, the Philbrick does not disclose or suggest "a **single Ethernet connector** for **handling a plurality of different types of network traffic transported via a single fabric**, wherein **the single Ethernet connector is coupled to the single integrated convergent network controller chip**," as recited in Applicant's claim 18. Haviv does not overcome Philbrick's deficiencies.

Furthermore regarding the rejection of claim 18, the Applicant submits that Philbrick does not disclose or suggest **"**the **single integrated convergent network controller chip is operable to** concurrently process the plurality of different types of traffic, for the plurality of servers, **which is transported via the single fabric,**" as recited by the Applicant in claim 18.

The Examiner states the following in the Office Action:

> "the single integrated convergence network controller chip is operable to concurrently process the plurality of different types of traffic ([0065] lines 15-21, at least two traffics SCSI and TCP/IP, fig. 14, [0084], [0085], NAS traffic and network storage traffic over network line 644, utilizing iSCSI and TCP/NetBios/SMB, [0085], iSCSI and TCP/NetBios/SMB, fig. 15, [0093], [0097], [0099], fast path audio and video traffics and real time voice/video traffics and NAS, RTP/RTCP and SIP and MGCP))."

See Office Action at page 6 (emphasis added). The Examiner relies for support on Philbrick's Fig. 14 to disclose the file format TCP/NetBios/SMB between the NAS

storage unit 642 and the host server 600, and iSCSI block format between the Network Storage Unit (SAN) 640 and the host server 600.

The Examiner is referred to the Applicant's above arguments in section I, that Philbrick does not disclose or suggest that the INIC 622 (the alleged convergent network controller) **concurrently processes the** TCP/NetBios/SMB files from the NAS 642 and the iSCSI PDUs from the SAN 640. In this regard, Philbrick does not disclose or suggest "…**a single integrated convergent network controller chip** that is enabled to **concurrently process a plurality of different types of traffic**," as recited in Applicant's claim 33.

Furthermore, Philbrick does not disclose "**the single fabric is coupled to a plurality of servers**," as recited by the Applicant in claim 18. Haviv does not overcome Philbrick's above deficiencies.

Therefore, based on the foregoing rationale, the Applicant respectfully maintains that Philbrick does not anticipate the Applicant's limitation of "a **single integrated convergent network controller chip**, and a **single Ethernet connector for handling a plurality of different types of network traffic transported via a single fabric,** said single Ethernet connector is coupled to **the single integrated convergent network controller chip, the single fabric is coupled to a plurality of servers … operable to concurrently handle a plurality of different types of traffic**," as recited by the

Applicant in claim 18. Claim 18 should therefore be allowable based on the above rationale.

Likewise, independent claims 1, 36 and 39 are similar in many respects to claim 18, are also submitted to be allowable based on the same rationale of claim 18. Furthermore, The Applicant reserves the right to argue additional reasons beyond those set forth herein to support the allowability of independent claim 18 should such a need arise.

A(2) Dependent Claims 20, 25 and 37-41

Based on at least the foregoing, the Applicant believes the rejection of independent claims 18, 36 and 39 under 35 U.S.C. § 103(a) as being unpatentable by the combination of Philbrick and Haviv has been overcome and requests that the rejection be withdrawn. Additionally, claims 20, 25 and 37-41 depend directly or indirectly from independent claims 18, 36 and 39 and are, consequently, also respectfully submitted to be allowable.

In addition, with regard to the rejection of claim 25, the Examiner is referred to the above arguments in Section I, namely, that **the iSCSI traffic is a single type of traffic comprising iSCSI PDU messages**. Philbrick does not disclose other traffic types, i.e. the IPC traffic or the cluster traffic, that are **concurrently** handled by the Ethernet

connector and the integrated chip. Claim 25 is therefore allowable. Claims 38 and 41 are allowable for the same rationale as stated with regard to claim 25.

The Applicant reserves the right to argue additional reasons beyond those set forth herein to support the allowability of dependent claims 20, 25 and 37-41, should such a need arise.

B. The Proposed Combination over Philbrick and Microsoft Does Not Render Claims 33-35 Unpatentable

The Applicant turns to the rejection of claims 33-35 under 35 U.S.C. § 103(a) as being unpatentable over Philbrick and further in view of Microsoft.

B (1) Independent Claim 33

With regard to the rejection of independent claim 33 under 35 U.S.C. § 103(a), the Applicant refers the Examiner to the arguments in the above section I, namely, Philbrick's controller MAC 424 is "a layer 2 (L2) connector". In addition, Philbrick also does not disclose "a single integrated convergent network controller chip" to process "a plurality of different types of traffic". Moreover, Philbrick and Satran do not disclose that the iSCSI PDU traffic in the single fabric are **two different types** of traffic (protocols). In addition, Philbrick also does not disclose "a single integrated convergent network controller chip that is enabled to concurrently process a plurality of different types of traffic," as recited in Applicant's claim 33.

Therefore, the Applicant maintains that Philbrick does not disclose or suggest "said single fabric comprises a single layer 2 (L2) connector coupled to a single integrated convergent network controller chip, that is enabled to concurrently process a plurality of different types of traffic," as recited in claim 33 by the Applicant. Microsoft does not overcome the limitation deficiency in Philbrick. Accordingly, a prima facie case of obviousness cannot be established by the combination of Philbrick and Microsoft to reject claim 33, therefore claim 33 should be allowable.

The Applicant respectfully requests that the rejection of claim 33 under 35 U.S.C. § 103(a) be withdrawn. Furthermore, the Applicant reserves the right to argue additional reasons beyond those set forth herein to support the allowability of claims 33 should such a need arise.

B(2) Dependent Claims 34-35

Based on at least the foregoing, the Applicant believes the rejection of the independent claims 26 and 33 have been overcome. Additionally, claims 34-35 depend from independent claim 33, and are, consequently, also respectfully submitted to be allowable. The Applicant respectfully requests that the rejection under 35 U.S.C. § 103(a) be withdrawn. The Applicant reserves the right to argue additional reasons beyond those set forth herein to support the allowability of dependent claims 34-35, should such a need arise.

CONCLUSION

Based on at least the foregoing, the Applicant believes that all pending claims 18-21, 25 and 33-41 are in condition for allowance. If the Examiner disagrees, the Applicant respectfully requests a telephone interview, and requests that the Examiner telephone the undersigned Patent Agent at (312) 775-8093.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

A Notice of Allowability is courteously solicited.

Respectfully submitted,

Date: July 23, 2009

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